*Hydrometallurgy*, 21 (1989) 403
Elsevier Science Publishers B.V., Amsterdam — Printed in The Netherlands



## Contents Vol. 21 (1988/1989)

*Vol. 21, 1 (August 1988)*

Densities and viscosities of $CuSO_4$-$H_2SO_4$-$H_2O$ solutions
J. Hotlos and M. Jaskula (Cracow, Poland) ..... 1
Dissolution of metal ferrites and iron oxides by HCl under oxidising and reducing conditions
Zheng-Ya Lu and D.M. Muir (Murdoch, W.A., Australia) ..... 9
Studies on the dissolution of metal values in manganese nodules of Indian Ocean origin in dilute hydrochloric acid
S.B. Kanungo and P.K. Jena (Orissa, India) ..... 23
Reduction leaching of manganese nodules of Indian Ocean origin in dilute hydrochloric acid
S.B. Kanungo and P.K. Jena (Orissa, India) ..... 41
Prediction of redox potential in concentrated iron sulphate solutions
M.J. Dry and A.W. Bryson (Randburg, South Africa) ..... 59
On the properties of solid and liquid ion exchangers XII: the systems $Ag^+$, $Co^{2+}$-$H^+$ and $Cd^{2+}$ on didodecylnaphthalene sulphonic acid (HDDNS) in heptane at 298 K
Z.I. Kuvaeva, A.V. Mikulich, A.V. Popov (Minsk, USSR) and E. Högfeldt (Stockholm, Sweden) ..... 73
Thermodynamic and kinetic study of the pressure leaching of zinc sulfide in aqueous sulfuric acid
J-P. Corriou, R. Gély and P. Viers (Chatenay-Malabry, France) ..... 85
Structural and temperature sensitivity of leaching of chalcopyrite with iron(III) sulphate
K. Tkáčová and P. Balaz (Kosiče, Czechoslovakia) ..... 103
Equilibrium species concentrations in the aqueous HCl-NaCl-$ZnCl_2$ and HCl-NaCl-$CdCl_2$ systems: the effect of ionic strength
C. Liddell (Pullman, Wash., U.S.A.) and R.G. Bautista (Ames, Iowa, U.S.A.) ..... 113

Meeting Announcements ..... 126

*Vol. 21, No. 2 (December 1988)*

Mercury extraction from cinnabar ores using hydrobromic acid
A. Ballester, E. Otero and F. González (Madrid, Spain) ..... 127
Solvent extraction for metal recovery incorporating organic and aqueous phase bypass
D.A. White (London, U.K.) ..... 145
The influence of the electronic structure of solids on the anodic dissolution and leaching of semiconducting sulphide minerals
F.K. Crundwell (Randburg, South Africa) ..... 155
Sulfuric acid concentration with an electro-electrodialysis process
A.T. Cherif, C. Gavach (Montpellier, France), T. Cohen (Thiais, France), P. Dagard (Paris la Défense, France) and L. Albert (Trappes, France) ..... 191
Solvent extraction equilibria of copper(II) by carboxylic acids with high acid dissociation constants
Yoshinari Baba and Katsutoshi Inoue (Saga, Japan) ..... 203

0304-386X/89/$03.50 © 1989 Elsevier Science Publishers B.V.

Chloride effect on the extraction rate of Cu with 2-hydroxy-5-nonylbenzophenone oxime
Li Zhou, W. Fürst and H. Renon (Paris, France) ..... 213
Kinetics of $PbO_2$ leaching in alkaline solutions containing polyhydric alcohols
Jia-Jun Ke and Chen Wang (Beijing, China) ..... 223
Gold recovery from carbon-in-pulp eluates by precipitation with a mineral acid. I. Precipitation of gold in eluates contaminated with base metals
P.F. Sorensen (Randburg, South Africa) ..... 235
Gold recovery from carbon-in-pulp eluates by precipitation with a mineral acid. II. Gold bullion production from precipitate, treatment of barren solution, the settling rate of precipitate and assisting precipitation by addition of $CuSO_4 \cdot H_2O$ in a recalcitrant eluate
P.F. Sorensen (Randburg, South Africa) ..... 243

*Vol. 21, No. 3 (May 1989)*

The removal of phosphorus from iron ore by leaching with nitric acid
Y. Zhang and M. Muhammed (Stockholm, Sweden) ..... 255
A hydrometallurgical process for the dephosphorization of iron ore
M. Muhammed and Y. Zhang (Stockholm, Sweden) ..... 277
Recovery of palladium and silver from process solutions by precipitation with thiocyanates and iron cyanides
G. Pfrepper, R. Pfrepper (Leipzig, D.D.R.) and M. Knothe (Freiberg, D.D.R.) ..... 293
A mass and energy balance model for the leaching of a pulverised fuel ash in concentrated sulphuric acid
B. Verbaan and G.K.E. Louw (Johannesburg, South Africa) ..... 305
Aspects of uranium adsorption by microorganisms
J.M. Scharer and J.J. Byerley (Waterloo, Ont., Canada) ..... 319
Précipitation de l'AUC par $NH_3$ et $CO_2$ à partir des solutions de nitrate d'uranyle
A. Boualia et A. Mellah (Alger, Algérie) ..... 331
Extraction of manganese(II) from ammonium chloride solutions with heptanoic acid
W. Apostoluk (Wroclaw, Poland) ..... 345
Salt roasting of an off-grade copper concentrate
N.V. Ngoc, M. Shamsuddin and P.M. Prasad (Varanasi, India) ..... 359
Electrowinning of lead from its chloride bath containing organic additives
S.C. Das, T. Subbaiah, P.K. Sahoo, R.P. Das and P.K. Jena (Bhubaneswar, India) ..... 373
Extraction kinetics of zinc from aqueous perchlorate solution by D2EHPA dissolved in isopar-H
J. Aparicio and M. Muhammed (Stockholm, Sweden) ..... 385

Author Index ..... 401

Contents Volume 21 (1988/89) ..... 403

Guide for authors